

CLAIMS

What is claimed as invention is:

1. An articulated seating mechanism, comprising:

5 a seat plate having a top side, a front side, a rear side, a right side, a left side, and an underside;

first and second linear gear racks;

a rocker base having an upper side;

first and second side rails, each of said side rails having an arcuate side;

10 first and second arcuate gear portions, each disposed on said arcuate side of one of said first and second side rails, said first and second arcuate gear portions in intermeshing relationship to said first and second linear gear racks, respectively;

a seat back pivotally connected to said seat plate;

first and second back links pivotally connected to said seat back and to said rocker base;

15 whereby during rocking movements of said seating mechanism, said first and second linear gear racks provide a moving tangent relative to said first and second arcuate gear portions such that said rocking movements occur over a moving fulcrum.

2. The seating mechanism of claim 1, wherein said side rails include a front side, a rear  
20 side, a top side, an underside, an interior side, an exterior side.

3. The seating mechanism of claim 1, wherein:

said first and second side rails are disposed upwardly from said upper side of said rocker base and include a top side;

said first and second arcuate gear portions are each disposed on one of said top sides of said first and second side rails; and

said first and second linear gear racks are disposed on said underside of said seat plate.

4. The seating mechanism of claim 1, wherein each of said first and second side rails includes a substantially flat underside, an arcuate top side having an apex, a front side, a rear side, a width, an interior side, and an exterior side, wherein a rear portion arcs downwardly toward said rear side a front portion curves downwardly toward said front side; and wherein first and second arcuate gear portions have a width that is less than said width of said first and second side rails.

5. The seating mechanism of claim 4, wherein each of said first and second arcuate gear portions span at least said rear portion of said top side of one of said side rails from said apex to a point proximate said rear side, and at least one gear tooth forward from said apex toward said front side of said rail.

6. The seating mechanism of claim 4, wherein said first and second side rails include front and rear arcuate slots.

7. The seating mechanism of claim 6, further including first and second proximity plates, integral with and disposed downwardly from said underside of said seat plate so as to prevent lateral movement of said seat plate over said rocker base.

5

8. The seating mechanism of claim 7, wherein said first and second proximity plates include front and rear selectively removable pins, inserted into said front and rear slots of said first and second rails, whereby the movement of said selectively removable pins within said front and rear slots define the allowable range of rocking movement of said seat plate.

10

9. The seating mechanism of claim 1, further including opposing first and second slide rails affixed to said underside of said seat plate, and wherein seat back comprises a back support and a substantially planar back slide plate having a front portion and a rear portion, said back support pivotally connected to said rear portion of said back slide plate, said front portion of said back slide plate slidably and adjustably inserted between said first and second slide rails.

15

10. The seating mechanism of claim 1, wherein said seat back includes a transverse bar and wherein said first and second back links are arcuate and have a front end pivotally attached to one of said first and second side rails and a rear end pivotally attached to said transverse bar.

20

11. The seating mechanism of claim 10, further including biasing means for adjusting the

angle between said seat plate and said rocker base is adjustable.

12. The seating mechanism of claim 11, wherein said biasing means moves said back slide plate relative to said seat plate.

5

13. The seating mechanism of claim 12, wherein said biasing means comprises:  
an angle rod connected at one end to said front portion of said back slide plate and captured at another end by an angle rod guide which is affixed to said underside of said seat plate;

10

a pair of rod locks pivotally fastened to said underside of said seat plate at a pivot point, each of said rod locks having a slotted opening at a first end that accommodates said angle, and also having a second end;

15

a compression spring disposed between and urging said rod locks apart at said second end, thereby restricting said back slide plate and preventing rotational movement to said transverse bar;

a release cable terminating in a release sleeve operably connected to said second end of said rod locks, said release sleeve having a retraction screw;

a pinion gear and an idler gear combination, said combination hung between brackets disposed on said underside of said seat plate;

20

a bias control knob connected to said release cable for selectively activating said retraction screw to release tension on said compression spring and for engaging said pinion gear

and idler gear combination to selectively apply a linear motion applied to said angle rod.

14. The seating mechanism of claim 1, further including a tilting front edge pivotally connected to said seat plate and responsive to any rocking motions of the seating mechanism such that as the mechanism is rocked backward, the front seat edge hinges and tilts downwardly, and as the seating mechanism is rocked forward, the front seat edge hinges and tilts upwardly.

15. The seating mechanism of claim 1, wherein said tilting front edge comprises a seat flap hinged to said front side of said seat plate, two connector links pivotally connected at one end to brackets affixed to said seat flap, and pivotally connected at another end to pivot points on said interior sides of said first and second rails, whereby as said seat plate is tilted back said connector links pull said seat flap down.

16. The seating mechanism of claim 1, further including a hub affixed to said underside of said seat plate for a swiveling connection to a center post of a chair pedestal.

17. The seating mechanism of claim 1, wherein said first and second side rails are disposed downwardly from said underside of said seat plate and include an arcuate underside.

18. The seating mechanism of claim 17, wherein said side rails include a front side, a rear side, a top side, an underside, an interior side, an exterior side, and wherein said first and

second arcuate gear portions are each disposed on one of said undersides of said first and second side rails; and said first and second linear gear racks are disposed on said upper side of said rocker base.